IN THE DRAWINGS

Please amend FIGURES 1 and 2 as enclosed herewith.

Remarks

Claims 1-2, 4-6, and 8-16 are the pending claims. Claims 3 and 7 have been cancelled. Claims 10-16 have been added. Claims 1, 6, 10, and 14 are the independent claims.

The Office Action rejected Claim 1 under 35 U.S.C. 103(a) as being unpatentable over Bremer (US 4,464,767) and Samueli (US 6,144,712). Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer, Samueli, and Yagi (US 5,995,168).

Bremer discloses a system for generating many-pointed QAM signal spaces by use of multiple and synchronous QAM transmitters. In Bremer, three individual relatively low BPS data rate transmitters have their outputs connected to different weighting multipliers. The outputs of the weighting multipliers in turn are connected to a summer which produces a composite signal. The input to the individual transmitters comprises a binary data input, the bits of which have been steered to individual ones of low BPS data rate transmitters. The composite output of the summer generates a signal space sufficient for 14,400 BPS transmission utilizing 4800 BPS transmitters.

The present invention provides a variable-rate QAM (Quadrature Amplitude Modulation) transceiver for facilitating data interfacing between a number of bands having different

transmission rates by using a number of transmitters and receivers in downstream and upstream, respectively, to provide a symmetric service in which the upstream data transmission rate is equal to the downstream data transmission rate, even in a serious channel environment.

In particular, the present invention discloses a variable-rate QAM transceiver for facilitating data interfacing between a number of bands having different transmission rates. By using transmitting processing means and receiving processing means having different data transmission rates, the present invention can adjust bandwidth with allocation of the passband of a number of transmitter and receivers based on frequency and provide high speed symmetric data transmission. Also, system complexity is decreased remarkably because the transmission convergence sub-layer and each transmitter and each receiver are operated based on an independent clock domain. This feature is supported in Applicants specification, page 6, lines 4-12, page 6, line 24-page 7, line 2. This feature is supported in amended Claim 1, 6, 10, and 14, particularly by the language "A QAM transmitting (or receiving) apparatus having a multiplicity of transmission bands with variable transmission rates . . . wherein the band [splitting means] distributes the TX (or RX) data to each of the band TX (or RX) [processing means] based on a predetermined data transmission rate."

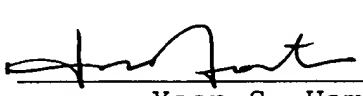
In contrast, as indicated above, Bremer discloses a system for generating many-pointed QAM signal spaces by use of multiple, synchronous QAM transmitters, with each of the QAM transmitters having the same and constant data transmission rate. (See Bremer, Summary section.) In other words, neither Bremer nor the other cited art teaches the QAM transceiver capable of symmetric data transmission which supports the variable transmission rate, as it is taught in the present invention.

The Office Action objected to Claims 2, 4-5 and 8-9 because of certain informalities. Amendment language has been suggested. These claims have been amended accordingly.

It is respectfully submitted that Claims 1-2, 4-6, and 8-16 are now in condition for allowance and a notice to that effect is earnestly solicited. The reasons for allowance of independent claims 1, 6, 10, and 14 were explained above. The remaining pending claims depend on these independent claims.

If any issues remain to be resolved, the Examiner is cordially invited to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

By  44,307

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